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March 21, 2003

Ms. Kristy Chew
Siting Project Manager
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, CA 95814

RE: Data Responses, Informal Set 15
Cosumnes Power Plant (01-AFC-19)

On behalf of the Sacramento Municipal Utility District, please find attached 12 copies and one original of the Informal Data Responses, Set 15. This filing contains the following documents:

- Elderberry Shrub Survey
- Burrowing Owl Reconnaissance Survey
- Giant Garter Snake Habitat Evaluation Survey

Please call me if you have any questions.

Sincerely,

CH2M HILL

John L. Carrier, J.D.
Program Manager

c: Colin Taylor/SMUD
Kevin Hudson/SMUD
Steve Cohn/SMUD

COSUMNES POWER PLANT
(01-AFC-19)

INFORMAL DATA RESPONSE, SET 15

Submitted by

SACRAMENTO MUNICIPAL UTILITY DISTRICT (SMUD)

March 21, 2003

2485 Natomas Park Drive, Suite 600
Sacramento, California 95833-2937

Cosumnes Power Plant - Elderberry Shrub Survey

PREPARED FOR: E.J. Koford

PREPARED BY: Russell Huddleston / SAC
Richard Crowe / SAC

DATE: October 18, 2002; Revised February 14, 2003

Introduction

The Sacramento Municipal Utility District (SMUD) proposes to develop a natural gas-fired generating facility south of the Rancho Seco Nuclear Facility in Sacramento County, 25 miles southeast of the city of Sacramento. Natural gas would be supplied to the new Cosumnes Power Plant (CPP) through a new 24-inch diameter pipeline constructed from the Carson Cogen Facility, approximately 20 miles to the northwest, to the proposed plant site. The proposed CPP natural gas pipeline is approximately 26 miles in length and will be located parallel and adjacent to paved roads, dirt roads, and railroad corridors The natural gas supply line would be constructed using open-trench, jack and bore and horizontal directional drilling techniques. The construction corridor will be 65 feet wide, but may be reduced to 35 feet in environmentally sensitive areas.

An elderberry shrub (*Sambucus* spp.) survey was conducted in order to identify potential valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (VELB) habitat along the proposed alignment. Elderberry shrubs were identified at five locations along the proposed alignment during previous environmental surveys. The purpose of this survey was to revisit the previously identified locations to inventory elderberry shrubs within 100 feet of the construction corridor; document the presence or absence of VELB exit holes; and assess the overall VELB habitat suitability. The following report summarizes this survey.

Valley Elderberry Longhorn Beetle

The VELB is endemic to California's Central Valley, where it's range extends north from Tulare County to Tehama County. The VELB life cycle is entirely dependent on elderberry shrubs. Adult emergence and mating coincides with the April to May elderberry blooming period, during which they feed exclusively on the foliage and flowers of the plant. VELB eggs hatch within a few days after being deposited in the crevices and cracks of elderberry bark. VELB larvae then bore into the plant and remain there for 1 to 2 years feeding on the pith. Adult beetles exit the plant by boring a small oval-shaped hole through the outer bark. Exit holes are approximately 3/16 of an inch wide, and are typically located in the larger stems or the trunk, less than 6 to 10 feet above the ground.

The VELB's most common host plant is the blue elderberry (*S. mexicana*), which is typically associated with riparian areas, but may also occur in non-riparian habitats with sufficient moisture. The U.S. Fish and Wildlife Service (USFWS) considers any mixture of riparian trees and shrubs in the Central Valley that includes elderberry to be potential VELB habitat

(USFWS, 1999). More specifically, , any elderberry shrub with one or more stems of at least 1-inch diameter at ground level, is considered as optimal VELB habitat.

Methods

Surveys were done in accordance with the USFWS conservation guidelines for the VELB (USFWS, 1999). All stems equal to, or greater than 1 inch diameter at ground level were recorded and investigated for possible VELB exit holes . The overall condition of the plant was noted as well as surrounding habitat type and associated vegetation. Photographs were taken to document the condition of the plants at the time of the survey (Appendix A).

Results

Elderberry shrub surveys were conducted on September 4 and October 17, 2002. A total of 9 elderberry shrubs were identified within 100 feet of the proposed pipeline construction corridor. Three of the identified shrubs were located within20 feet of the proposed construction area. Elderberry shrubs were grouped in general locations along the alignment further referred to as: the Western Pacific Railroad right-of-way; west of Franklin Boulevard; the Cosumnes River; and the Southern Pacific Railroad right-of-way north of Badger Creek. Potential VELB exit holes were observed in the elderberry shrubs located in the area defined as west of Franklin Boulevard. The survey results from these four locations are further discussed as follows. Measurements and descriptions of the nine elderberry shrubs are included at the end of this report in Table 1.

Western Pacific Railroad Right-of-Way – (Dwight Road to Elk Grove Boulevard)

Six elderberry shrubs were observed east of the construction corridor at scattered locations between Dwight Road and Elk Grove Boulevard. Elderberry shrubs in this area were locatedin or adjacent to the Western Pacific Railroad ballast. Observed shrubs had multiple stems equal to or greater than one inch diameter at ground leveland appeared to be good condition(Table 1). Surrounding vegetation included ruderal species such as ripgut brome (*Bromus diandrus*), common spike weed (*Hemizonia pungens*), yellow starthistle (*Centaurea solstitialis*) and Himalayan blackberry (*Rubus discolor*). Three elderberry shrubs observed at the north end of the pipeline alignment, near Dwight road, were over 100 feet from the edge of the construction corridor. Three shrubs, located between Laguna Boulevard and just south of Elk Grove Boulevard, were less than 20 feet from the proposed work area. The elderberry shrubs within the "Western Pacific Railroad right-of-way" area were considered unlikely VELB habitat due to the lack of adjacent riparian habitat, patchy occurrences, and frequent disturbance resulting from passing trains. VELB exit holes were not observed.

West of Franklin Boulevard

Numerous elderberry shrubs were observed south of Elk Grove Boulevard and west of Franklin Boulevard. All of these shrubs are located on the opposite (east) side of Franklin Boulevard from the proposed pipeline alignment. Two elderberry shrubs are within the 100 foot buffer of the pipeline construction corridor,withthe nearest shrub approximately 90 feet from the construction work area, and the second shrub within approximately 95 feet. The surrounding vegetation includes valley oak (*Quercus lobata*), cottonwood (*Populus fremontii*), willow (*Salix* spp.) and box elder (*Acer negundo*), which appear to have been planted and were in good condition. Potential VELB exit holes were observed in two elderberry shrubs.

This area provides suitable habitat for VELB. Proposed construction on the east side of Franklin Boulevard would not involve the removal of elderberry shrubs or other riparian vegetation and is not likely to have a significant impact upon the potential VELB habitat at this location.

Cosumnes River

Four small elderberry shrubs and several elderberry saplings (less than 1 inch in diameter) were observed along the outer levee wall, adjacent to an agricultural field, on the west side of the Cosumnes River. These shrubs were approximately 70 feet from the proposed horizontal directional drill work limits.. Surrounding vegetation included annual grasses such as ripgut brome, fennel (*Foeniculum vulgare*), and a single valley oak. Three additional shrubs were observed along the edge of the dense Cosumnes River riparian area, characterized by willows, valley oak, box elder and cottonwood. One shrub in this area is located approximately 65 feet from the centerline of the proposed pipeline alignment. Elderberry shrubs, the surrounding riparian habitat, and the river channel will be avoided by horizontal directional drilling underneath the riparian area. No exit holes were observed, however the elderberry shrubs and the surrounding riparian habitat were considered to provide potential VELB habitat Indirect impacts to this area will be avoided or minimized to the maximum extent practicable.

Union Pacific Railroad right of Way – Badger Creek

Fourteen elderberry shrubs were observed along the Southern Pacific Railroad right-of-way, approximately 300 to 500 feet northeast of the proposed Badger Creek horizontal directional drill work limits . Elderberry shrubs in this area will not be impacted as a result of the proposed project activities.

Mitigation Measures

The USFWS service may require mitigation for elderberry shrubs that occur on, or adjacent to the proposed project site with one or more stems with a 1 inch diameter or greater at ground level. A 100-foot buffer established around elderberry shrubs should provide adequate avoidance of potential VELB habitat. Disturbance within 100-feet of an elderberry shrub will require consultation with the USFWS. In areas where USFWS has approved encroachment into the buffer area, a minimum distance of 20-feet must be maintained from the drip line of each elderberry shrub.

The following are examples of mitigation measures that may be required by the USFWS for activities within 100 feet of potential VELB habitat:

- Prepare a written description of how buffer areas will be protected, restored and maintained during and following construction.
- Identify buffer and avoidance areas with fencing and flagging during construction activities.
- Provide environmental awareness training for all project personnel that includes VELB natural history, required avoidance measures, personal responsibilities, and penalties for noncompliance.

- Post signs every 50 feet along the edge of the avoidance areas stating that the area is within protected habitat.
- Restore any damage resulting from construction activities within the 100-foot buffer area with the appropriate native plant species.
- Protect buffer areas from adverse effects resulting from the project.
- Restrict the use of insecticides, herbicides, fertilizers or other chemicals that might harm VELB or elderberry shrubs within 100 feet of identified locations.

If impacts to elderberry shrubs and surrounding riparian vegetation are unavoidable, mitigation may be required by the USFWS. Unavoidable elderberry shrubs should be transplanted to an approved conservation area. The USFWS must be consulted prior to transplantation and a qualified biologist is required to monitor the transplanting activities. Transplanting must occur while the plants are dormant (generally November through early February). If transplanting is not possible, seedlings must be planted to offset the loss of habitat.

Conclusions

A total of nine elderberry shrubs were identified within 100 feet of the proposed natural gas construction corridor., Three of the elderberry shrubs were located less than 20 feet from the proposed work area but did not meet the criteria associated with likely VELB habitat. Numerous elderberry shrubs, were observed on the west side of Franklin Boulevard, south of Elk Grove Boulevard. All but two of these shrubs were located within 100 feet of the construction corridor, and all shrubs in this area are separated from the proposed work area by Franklin Boulevard and will be avoided during construction.

Several shrubs were observed in or near the riparian habitat along the Cosumnes River. Four shrubs with stems of at least one inch diameter were observed within 100 feet of the construction corridor. Impacts to elderberry shrubs and riparian habitat in this area will be avoided by the use of horizontal directional drilling and other appropriate mitigation and minimization measures.

References

United States Fish and Wildlife Service (USFWS). 1999. Conservation Guidelines for the Valley Elderberry Longhorn Beetle. Sacramento, California. July 9, 1999.

TABLE 1.
Elderberry shrubs and stem count for all plants within 100 feet of the construction work area. (No stems over 5 inches or exit holes were observed.)

Shrub ID	Location	1"	1"-3"	3"-5"	Condition	Potential Exit Holes	Approximate Distance from work Area	Habitat	Associated Species
4	Between Laguna Blvd and Elliot Ranch	2	7	2	Good	No	<10	Ruderal	Annual grasses and forbs
5	South of Elk Grove Blvd, next to PG&E valve station	7	2		Good	No	10	Ruderal	Annual grasses and forbs
6	South of Elk Grove Blvd, next to PG&E valve station		5	1	Good	No	15	Ruderal	Annual grasses and forbs
7	West of Franklin Blvd	1	2	2	Good	No	90+	Riparian[1]	Willow, Cottonwood
8	West of Franklin Blvd	2	6		Good	No	95	Riparian[1]	Willow, Cottonwood
12	Cosumnes River Area		1		Good	No	70	Ruderal[2]	Annual grasses and forbs / single valley oak
13	Cosumnes River Area		1		Good	No	70	Ruderal[2]	Annual grasses and forbs / single valley oak
14	Cosumnes River Area	1			Good	No	70	Ruderal[2]	Annual grasses and forbs / single valley oak
15	Cosumnes River Area	6			Good	No	70	Ruderal[2]	Annual grasses and forbs / single valley oak

Notes:

[1] Riparian vegetation and elderberry shrubs apparently planted in mitigation area west of Franklin Boulevard
[2]These shrubs occurred in a ruderal habitat but were approximately 150 feet from the Cosumnes River riparian corridor.

APPENDIX A

Photographs

Elderberry Shrub #1 – South of Dwight Road, west side railroad tracks

Photo: 9 /4/02

Elderberry Shrub #2 – South of Dwight Road, west side railroad tracks

Photo: 9/4/02

Elderberry Shrub #3 – South of Dwight Road, west side railroad tracks

Photo: 9/4/02

Elderberry Shrub #4, between Laguna Blvd and Elliot Ranch Road, west side of railroad

Photo: 9/4/02

Elderberry shrub #5 – Elk Grove Blvd, west side of railroad tracks

Photo: 9/4/02

Elderberry Shrub #6 – Elk Grove Blvd, west side of railroad tracks

Photo: 9/4/02

Elderberry Shrub #7 and #8 – Mitigation area on the west side of Franklin Blvd.

Photo: 10/17/02

Elderberry Shrub #9 – Mitigation area on the west side of Franklin Blvd.

Photo 10/17/02

Elderberry Shrubs #10 and #11 – Mitigation area on west side of Franklin Blvd.

Photo: 10/17/02

Exit holes observed on Elderberry Shrub #11 in mitigation area west of Franklin Blvd.

Photo: 10/17/02

Elderberry Shrub #12 – west side of the Cosumnes River

Photo: 9/4/02

Elderberry Shrubs #13 and #14 – west side of the Cosumnes River

Photo 9/4/02

MEMORANDUM CH2MHILL

Biological and Burrowing Owl Reconnaissance Survey for the SMUD Cosumnes Power Plant Project

TO: EJ Koford/SAC

FROM: Victor Leighton III/SAC

DATE: March 19, 2003

This memo briefly summarizes the reconnaissance burrowing owl (*Athene cunicularia*) and wildlife observations conducted along the 26 miles of natural gas pipeline, Cosumnes Power Plant site and laydown areas on February 10-11, 2003.

These surveys were brief, reconnaissance level ocular inspections. No protocol level searches were conducted. The following provides a description of methods and results of observations.

Methods

The survey consisted of visual observations with binoculars along the pipeline corridor, plant site, and associated laydown areas. Meandering transects were walked in areas not accessible by vehicles with the aid of binoculars to cover an area up to 500 feet or less, where topography or residential development precluded inspections, on both sides of centerline along the entire gas pipeline route. In areas where roads paralleled the pipeline alignment visual inspections from the vehicle with the aid of binoculars was utilized to locate potential burrows/nesting structures. Where potential burrows/nesting sites were identified a visual inspection was conducted to determine burrowing owl occupancy. The plant site and associated laydown areas were walked. All the areas were inspected to identify burrowing owl occupancy or potential burrow/nesting structures. All California ground squirrel (*Spermophilus beecheyi*) burrows, culverts, cement, asphalt, wood debris piles, or other potential structures were visually inspected for occupancy of burrowing owl, molted feathers, cast pellets, prey remains, white wash or other information showing burrowing owl occupancy. Any potential burrowing owls sites were mapped. In addition, habitat adjacent to the survey area corridor was surveyed for nesting raptors, where topography and vegetation allowed.

Results

- No active burrowing owl nest sites or burrowing owl evidence was observed along the pipeline route, plant site or laydown areas, several potential burrowing owl refugia sites were identified. The following identifies the sites with the greatest potential for burrowing owl occupancy.
- Historical data from Sacramento Regional County Sanitation District (SRCSD) resource specialists occurs for burrowing owls along Simms Road and along the ballast of Southern Pacific Rail Road (SPRR)tracks. See SRCSD Historic/Present Burrowing Owl map(Attachment 1). One owl was observed approximately 50 feet north of Simms Road

in a field using an artificial burrowing owl mound. This site is over 1,400 feet east from the pipeline corridor.

- A large colony of ground squirrels was observed along a dirt road/fenceline north of Core Road approximately 1400 feet east of SPRR tracks. Burrows start approximately 50 feet from the north edge of Core Road and occur for several hundred feet to the north. This area could attract burrowing owls and is adjacent to the proposed pipeline.
- Ground squirrel burrows were observed randomly along Twin Cities Road within the incised berms that run along SPRR tracks. This area is adjacent to the proposed pipeline.
- A large colony of ground squirrels was observed over the entire Cosumnes Power Plant site as well as adjoining areas to the north. The majority of the burrows occurred along the western fenceline and along the drainages that meander through the area and adjoining areas to the north.
- Several seasonal wetlands previously identified along Southern Pacific Railroad between Dwight Road and Elk Grove Boulevard still contained water and seasonal wetland plants. These pools were visually inspected for the presence of fairy shrimp. All the remaining pools contained fairy shrimp and/or vernal pool tadpole shrimp (*Lepidurus packardi*). No specimens were collected during this survey. These locations were noted on aerial maps of the alignment and are recorded within the table.

SMUD SEASONAL WETLANDS OBSERVATIONS 02/10/2003

Seasonal Wetland ID	Tadpole Shrimp	Fairy Shrimp spp.	Comments
A2	Yes	Yes	Hundreds of fairy shrimp spp. observed.
A5	No	Yes	Copulation between fairy shrimp spp. Observed. Third stage amphibian tadpoles observed
A6	Yes	Yes	Tadpole shrimp from approximately 1cm to 3cm observed.
A6a	No	Yes	Hundreds of shrimp observed. Pool approximately 3'x3'.

- Numerous red-tailed hawks (*Buteo jamaicensis*), red-shouldered hawks (Buteo lineatus), American kestrels (*Falco sparverius*), northern harriers (*Circus cyaneus*), and white-tailed kites (*Elanus caeruleus*) were observed along entire pipeline alignment. Mature birds appeared to be pairing up. Courtship behavior was observed in several pairs of white tailed kites. No nesting raptors sites were identified during this survey.

Sandhill cranes (*Grus Canadensis tabida*) were observed in two locations along the pipeline alignment.

- The first group (pair) was observed east of Bruceville Road in a disked corn field within 500 feet of the southern edge of the pipeline alignment.

- The second group (60+ birds) was located east of the Cosumnes River crossing in a disked corn field. This group of sandhill cranes was on or within 300 feet of the pipeline alignment.

In summary, although raptors are found near the site and pipeline corridor no active nest sites for burrowing owls or raptors were observed during this survey. However nesting may initiate later in the year and should be checked.

Protocol level burrowing owl surveys are recommended to document and map all active burrows, potential burrows/nesting structures along the pipeline alignment, CPP site and associated laydown areas.

Attachment 1

SRCSD Historic/Present Burrowing Owl Locations


ATTACHMENT 1
1995
12-07-99
1-18-02
12-07-99
Present
Present
4-26-00
Present
Present
1-20-00
Present